

IN THE CLAIMS:

1. (Previously Presented) A method for the production of a hop extract comprising the steps of subjecting hops or a hop product to (1) an isomerisation reaction in the presence of water as a solvent and in the presence of an amount of a base, and (2) to at least one extraction.

2. (Previously Presented) The method according to claim 1, wherein the isomerisation reaction is carried out in water as a solvent.

3. (Previously Presented) The method according to claim 1, wherein the isomerisation reaction is carried out in alkaline conditions corresponding to concentrations of KOH (w/v%) of at least 0.1.

4. (Currently Amended) The method according to claim 1, wherein before subjecting hops or a hop product to the at least one extraction and the isomerisation reaction, the hops or the hop product is subjected to an extraction in the presence of liquid or supercritical CO₂ or at least one substantially non-polar organic solvent, followed by recovering ~~the~~ residue containing the extract which is enriched in prenylated flavonoids.

5. (Previously Presented) The method according to claim 1, further comprising mixing an amount of the hop extract obtained by the at least one extraction and the isomerisation reaction with an amount of a hop extract enriched in xanthohumol.

6. (Previously Presented) The method according to claim 1, wherein the isomerisation reaction and the at least one extraction are continued until an extract is obtained which contains at least 0.15 wt.% of 8-prenylnaringenin and at least 3 wt.% of xanthohumol.

7. (Previously Presented) The method according to claim 1, wherein the isomerisation reaction and the at least one extraction are continued until an extract is obtained with a xanthohumol/8-prenylnaringenin ratio of at least 10.

8. (Previously Presented) The method according to claim 1, wherein the isomerisation reaction and the at least one extraction are continued until an extract is obtained which contains 6-prenylnaringenin and 8-prenylnaringenin in a ratio (8-prenylnaringenin x 100%)/(8-prenylnaringenin + 6-prenylnaringenin) of at least 50%.

9. (Currently Amended) The method according to claim 1, wherein ~~as-a hop product use in made of a hop product~~ is used that has been subjected to an additional extraction step with water and/or at least one non-polar organic solvent, followed by recovering the residue containing the extract which is enriched in prenylated flavonoids.

10. (Previously Presented) The method according to claim 1, wherein at least one extraction is carried out with at least one organic solvent chosen from the group of alcohols, water-based alcohols, ketones, water-based ketones or esters or mixtures thereof or alkaline water.

11. (Previously Presented) The method according to claim 1, wherein the isomerisation reaction is carried out at a temperature between the freeze point and boiling temperature of the reaction mixture.

12. (Previously Presented) The method according to claim 11, wherein the isomerisation reaction is carried out at a temperature between ambient temperature and 60°C.

13. (Previously Presented) The method according to claim 1, wherein the isomerisation reaction is carried out in inert atmosphere.

14. (Previously Presented) The method according to claim 1, wherein the isomerisation reaction is carried out for a time period between 0.25 and 4 h.

15. (Previously Presented) The method according to claim 1, further comprising the step of mixing an amount of the enriched hop extract obtained from the at least one extraction and the isomerisation reaction with an amount of a hop extract enriched in a 8-alkylnaringenin.

16. (Currently Amended) The method according to claim 15, wherein the hop extract enriched in said 8-alkylnaringenin is 8-isopentylnaringenin, which is obtained with a method comprising the steps of:

(a) subjecting a hop extract enriched in xanthohumol to an isomerisation reaction to convert xanthohumol to isoxanthohumol;

- (b) subjecting the extract obtained in step (a) to a catalytic hydrogenation reaction to convert isoxanthohumol to dihydroisoxanthohumol;
- (c) subjecting the extract obtained in step (b) to a demethylation reaction to convert dihydroisoxanthohumol to 8-isopentylnaringenin.

17. (Previously Presented) The method according to claim 16, wherein the isomerisation reaction in step a) is carried out in alkaline conditions.

18. (Previously Presented) The method according to claim 15, wherein the hop extract enriched in 8-alkylnaringenin is obtained by addition to an amount of a synthetic 8-alkylnaringenin.

19. (Withdrawn) A hop extract comprising a mixture of 8-prenylnaringenin and 6-prenylnaringenin, wherein the ratio of (8-prenylnaringenin x 100%)/(8-prenylnaringenin + 6-prenylnaringenin) is at least 50%.

20. (Withdrawn) A hop extract as claimed in claim 19, wherein the extract comprises a mixture of xanthohumol and 8-prenylnaringenin, the weight ratio of xanthohumol to 8-prenylnaringenin being at least 10.

21. (Withdrawn) A hop extract as claimed in claim 19, wherein the hop extract comprises at least 0.15% (w/w) of 8-prenylnaringenin and at least 3% xanthohumol.

22. (Withdrawn) A hop extract as claimed in claim 19, wherein the hop extract further comprises isoxanthohumol.

23. (Withdrawn) A hop extract as claimed in claim 19, wherein the hop extract further comprises an amount of 8-alkylnaringenin.

24. (Withdrawn) Use of the hop extract according to claim 19 for the manufacture of a medicament or a phytopharmaceutical in which the possible proliferative activity, due to the estrogenic activity of 8-prenylnaringenin, is inhibited (or counteracted) by the antiproliferative activity of xanthohumol.

25. (Withdrawn) Use of the hop extract according to claim 19 for the manufacture of a medicament or a phytopharmaceutical product for the treatment or prophylaxis of any one of conditions, symptoms, complaints or balance of oestrogenic nature.

26. (Withdrawn) Use as claimed in claim 25, whereby the condition, symptom, complaint or disease state caused by the disturbance in hormonal balance of oestrogenic nature in the menopause.

27. (Withdrawn) Use of the hop extract as claimed in claim 25, whereby the disease state is osteoporosis.

28. (Withdrawn) Use of the hop extract as claimed in 25, whereby the disease state is selected from the group consisting of sex hormone-dependent cancers, cardiovascular diseases, prostate dysfunction, colon cancer.

29. (Withdrawn) A nutritional composition/supplement comprising an amount of the hop extract according to claim 19.
30. (Withdrawn) A cosmetic composition comprising an amount of the hop extract according to claim 19.